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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,979	02/23/2004	Shiro Suyama	32307-201092	2620

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WASHINGTON, DC 20043-9998

EXAMINER
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SHENG, TOM V

ART UNIT	PAPER NUMBER
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2629

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/782,979	<b>Applicant(s)</b> SUYAMA ET AL.	
	<b>Examiner</b> Tom V. Sheng	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 44-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 49-61 is/are allowed.
- 6) ☒ Claim(s) 44-46 is/are rejected.
- 7) ☒ Claim(s) 47 and 48 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION*****Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claim 44 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 7 of U.S. Patent No. 6,940,473 B2, hereinafter the 473 patent. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the 473 patent claim 7's head-mounted display for displaying a three-dimensional image by displaying two-dimensional images on a plurality of image planes located at different depth positions for a left eye and similarly for a right eye of an observer correspond to claimed "a phantom three-dimensional display device for displaying a phantom three-dimensional image comprised of an aggregation of depth sampled images" and "where the depth sampled

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images are displayed in a depth direction.” Claim 7’s fourth means for changing brightness levels of the two-dimensional images displayed on the at least two image planes individually at least two image planes at a time for the left eye and the right eye correspond to claimed “a shutter device having a plurality of shutter elements for controlling a light transmittance” and “wherein the shutter elements are arranged at positions where the depth sampled images are displayed in a depth direction.” Finally, claim 7’s use of third means to successively switches the two-dimensional images generated by the image generating means together with above described fourth means correspond to claimed “each of the shutter elements are controlled in a time division manner respectively to vary the light transmittance.” For reference see fig. 70, 71, 72, 91A and 91B.

As for claim 45, in order to change the brightness levels on the image planes individually, obviously the shutter elements would be two-dimensionally divided in a plane perpendicular to the depth direction.

As for claim 46, the 473 patent claim 7’s fourth means progressively raises the brightness levels of the object images displayed on the plurality of image planes from an image plane remote from the observer toward an image plane close to the observer in synchronism with the successive switching of the two-dimensional images by the third means correspond to claimed “a predetermined shutter element lowers a light transmittance in the region of the depth sampled images as two-dimensional images at the positions of the shutter elements when the depth sampled images are displayed in the depth direction in a time division manner.”

***Allowable Subject Matter***

3. Claims 49-61 allowed.
4. Claims 47-48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is a statement of reasons for the indication of allowable subject matter: none of the prior arts of record teaches the limitations "wherein the material of said shutter element is ..." of claim 47, "wherein said phantom three-dimensional display device is constructed with a two-dimensional image display device and a varifocal optical device" of claim 48, "wherein the shutter elements are arranged at a real position according to a depth position ..." of claim 49, "wherein the control device controls the display and the optical device so that the focal lengths of the optical device are focused on the positions of the depth sampled images, and said display devices are mounted to left and right eyes, and said control device synchronously drives said two-dimensional display device and said optical device to perform three-dimensional display" of claim 52, "wherein the control device controls the display and the optical device so that the focal lengths of the optical device are focused on the positions of the depth sampled images, and controls said optical device in such a way that when ..." of claim 53, "wherein the control device controls the display and the optical device so that the focal lengths of the optical device are focused on the positions of the depth sampled images, and wherein said optical device has a transparent material ..." of claim 54.

### ***Response to Arguments***

6. Applicant's arguments, see amendment, filed on 6/23/2006, with respect to the rejection(s) of claim(s) 44-61 under 35 U.S.C. §112, 102 and 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Suyama et al. (US 6,940,473 B2).

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tom Sheng  
September 5, 2006

AMR A. AWAD  
SUPERVISORY PATENT EXAMINER  
*Amr Awad*